

PATHWAYS

Vol. VII

NOVEMBER 1985

No. 4

A PUDDLE OF WATER

by Saroja Sundararajan

Water fascinates youngsters. Adults take it for granted but children think it is marvellous. It is so varied in what it looks like, and feels like, and in what it can do. Opportunities to explore these characteristics are abundant and a child should be allowed, within reasonably safe limits, to discover them for himself. The activities that are given here are all closely interwoven. They need not be *formal* activities, but could be a part of daily life, exploiting every situation in order to expose a child consciously to new things. This plan can be used by a preschool teacher, a childcare worker or a parent and adapted to suit varied local situations. Many skills can be taught, as is illustrated by the attached skill chart. An ideal time to start such activities would be on a rainy day or during the monsoons.

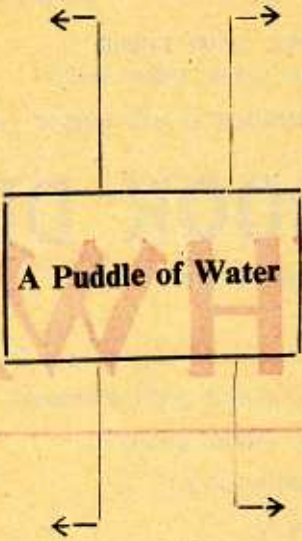
Water in Nature

1. Rivers, seas, pond, wells etc.
2. Plants
3. Human body
4. Rain cycle
5. Water life
6. Seasons/Rainbow

Uses of Water

1. Washing
2. Cleaning
3. Drinking
4. Cooking
5. Putting out fire
6. Manufacturing

A Puddle of Water



Properties of Water

1. Finds its own level
2. Solubility
3. Floating/sinking
4. Absorbing
5. Bubbles

Water and Health

1. Pollution
2. Bathing
3. Drinking
4. Toilet training.

SKILLS

Language

1. Vocabulary
2. Story telling—'Pyasa Kauva'
3. Writing

Mathematics

1. Estimation and Measurement -- more than/less than.
2. Sorting and classification of living things in a pond.

Social and Recreational

1. Observing people standing in a queue. for water at a public tap- consideration, patience ?
2. Conservation of water
3. Swimming
4. Bird watching.

Experimentation

1. Water finding its own level.
2. Floating and sinking.
3. Dissolving—soils, absorption
4. Evaporation of water with different fabrics/material.
5. Rusting
6. Sweating
7. Drying leaves
8. Three states of water.

Creative skills


1. Singing/recitation—Poems on water.
2. Craft—making boats with paper, bottle caps, water wheel etc
3. Foot prints on dry/wet mud or sand
4. Drawing—reflection in water

ACTIVITIES :

- * Watching the sky *before* it rains—with dark, grey clouds gathering, This can be great fun, especially when one is motivated to imagine human or animal forms in the sky. These can be drawn and coloured.
- * Rains bring joy to birds—especially to peacocks, which dance away in ecstasy. A visit to a place like the Deer Park (if possible) can show the child the bright, beautiful colours—do these contrast with the dull grey clouds ?
- * Children love singing—and can enjoy music that is meaningful. A poem like बादल आए, the one given here, would be most appreciated.

बादल आए

देखो नभ में बादल आए,
उमड़ घुमड़ कर वे मंडराए,
बादल गरज रहे हैं गड़ गड़
बिजली चमक रही है चम चम,
पानी बरस रहा है छम छम ।

मोरों  हैं पंख फैलाए,
घूम घूम कर नाच दिखाएँ
मेंढक भी हैं कूद लगाएँ
उछल कूद के टर्राएँ ।

बादल देख हम हर्षाए,
पानी में हम खूब नहाए ।
कागज की एक नाव बनाएँ ।
पानी में हम उसे बहाएँ ।



- * Rains start falling in drops first. Can a raindrop be seen when it falls ? What does it look like ? What happens to them when they fall on flat surfaces, sloping surfaces, into a puddle, on a flower petal, on an umbrella..... ? Can you make water fall like a shower of rain ? How ? Can you try watching water drops fall on different types of paper or cloth ? Is it possible to make a very big *DROP* or tiny drop ? How? Why ? Does rain water taste different from any other water ?
- * Rains have filled up pits, puddles are formed, pools of water are seen. Is there any rhythm in frogs croaking ? Do they follow any pattern ? Is there a leader ?
- * Bird watching can be very interesting. Birds bathing in water—do they immerse themselves ? How do they drink water ? Why do they frequently look around ? How do they pick up worms/ insects from under the water ?

- * Fishing out insects from ponds and pools with an improvised net, can be real fun. At this uninhibited age, children are mostly fearless. Insects can be sorted, examined and classified—and then watched carefully. Do they have legs? Where are their eyes etc.?
- * Is bathing an enjoyable experience for you? What do you use to clean yourself? Watch your bath water or the water that your mother rinses out after washing clothes.
- * Make mud houses to play; which is better? Dry mud or wet mud? After play, wash your hands—how dirty are they?
- * Recite the poem—सफाई

सफाई

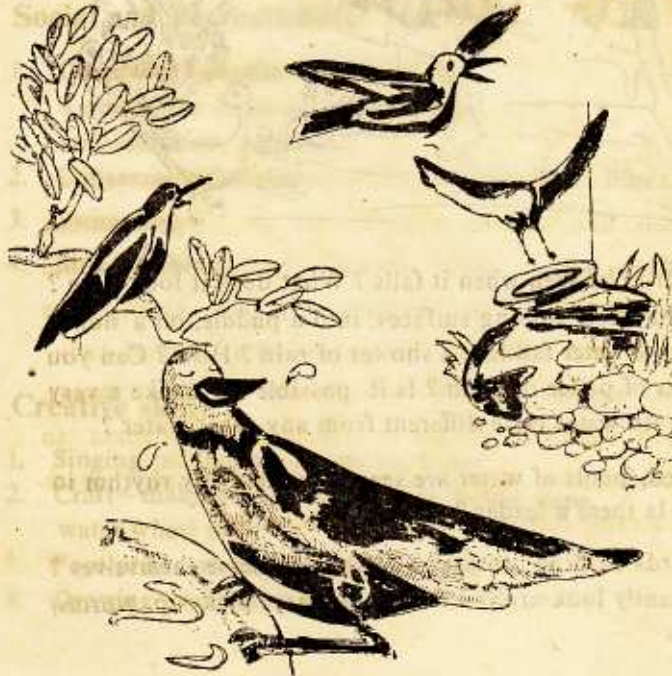
मिट्टी का था महल बनाया
फूलों से था उसे सजाया।
तभी भूख ने मुझे सताया
भटपट घर में भागा आया।

हाथ न धोए मैंने भाई,
भट से खूब जलेबी खाई,

शक्कर की भी फांक लगाई,
मां थी मुझ पर चिल्लाई।

पेट मेरा फिर गड़गड़ाया
दर्द उठा रोया चिल्लाया।
कड़वी दवाई थी जब खाई
हाथ धोने की बात समझ में आई।

- * What happens if you wash your hands with soap?
- * Play with soapy water. With a bamboo stick or a straw blow bubbles—starting from one, two to several. Can you make a small bubble inside a big bubble? Can you make bubbles grow bigger and bigger? What happens? Blow bubbles in sunlight? Can you see colours?
- * Take an assortment of things and a bucket of water. Put them in water one by one—do they float or sink? It is possible to make floating objects sink or sinking objects float? Make paper boats or boats made out of milk bottle caps. Do they float? Does it make any difference how you put the object in the water?
- * Take a bottle half filled with water. Mark the level. Keep adding stones. Does the water level go up? Listen to the story: प्यासा कौआ



प्यासा कौआ

एक था कौआ,
बहुत ही प्यासा,
गरमी से घबराया था,
पानी मिल न पाया था।
काँ काँ करता शोर मचाता
पानी फिर भी मिल न पाता।
तभी घड़ा एक दिया दिखाई,
जान में जान उसके आई,
चोंच पानी तक पहुँच न पाई,
यह एक और मुसीबत आई।
कंकड़ भट से खूब उठाए
“ढप” कर पानी में गिराए,
पानी भट से ऊपर आया
प्यास बुझा कौआ मुस्काया।

- * Birds need water to live—so do plants. How do you know plants take water. Pluck a stem from a plant having light coloured flowers. Keep the stem in water containing red colour. Watch the flowers becoming red after a few hours. Plants take in water. Try with different colours.
- * Colours are always wonderful. When there is bright sunshine after rains—look at the sky. You will see a big rainbow. Count the colours. Draw a rainbow. Did you see the same colours in the soap bubbles ?
- * Draw anything you like on old newspapers—you may use turmeric, lime, *dhobi* blue. Mix these in water colour away to your heart's satisfaction.
- * Pick up several leaves—of different shapes, sizes. Press them between newspapers—after a few days, when you take these out, how do they look ? Why ? Use these leaves for some interesting craft work. Draw on a newspaper any animal—a goat, dog or fish will be the easiest. Paste these dry leaves on the picture. Use seeds for eyes. When you make a few of these animals with dry leaves—you have a 'Leaf Zoo.'
- * How do you know that we too have water in our bodies ? Skip for five minutes. Wipe your neck with a piece of cloth ? What do you see ?
- * Does your mother or anyone in your family stand in a line to collect water from a public tap or well ? Look at all the vessels kept there. Do they look the same ? Is the first one more than/less than the second ?
- * Take three bottles of different shapes but of the same height. Which will hold the least water ? How can you say ? Can you prove it ?
- * Keep a vessel under a leaking tap—See how much water goes waste. Learnt the poem.—पानी

पानी

प्यास लगे तो पीयें पानी
हाथ धोएं तो लाएँ पानी
पौधों में हम डालें पानी
कुत्ता बिल्ली माँगें पानी ।

पानी बिन हम जी न पाएँ
फिर पानी को क्यों बहाएँ ?

नल खुला—बहता पानी
टप-टप-टप-टप बहता पानी
पानी को तुम खूब बचाओ
काम पड़े तो नल चलाओ ।

- * Have you seen your mother boiling water for tea or for cooking ? What happens to the water ? Ask your mother to hold a lid above the boiling water. Can you see drops of water coming down from the lid ? Find out how rain is formed ?
- * Take some sugar. Put some in cold water and some in hot water and mix. Which disappears faster ? Find out why ? Can you try this with other things too ? Is there anything that will not disappear ?
- * When something catches fire, how do you put it off ?

- * Walk on dry mud and wet mud. Where can you see your foot prints better? Make foot print patterns on the mud. Have you seen foot prints of dogs, cats ... Are they bigger than yours or smaller?
- * Look at a pool of calm water. Can you see in it, the things that are around the pool? What do they look like? Can you draw looking into the pool? Try drawing a tree, a moon, a face as seen inside the water.
- * How do you feel in summer when it is hot, in spring when it is pleasant, in winter when it is cold? These are all *seasons*.
- * Learn the poem.—मौसम

मौसम

	सर्दी
मौसम कितने प्यारे हैं । अहा ! कितने न्यारे हैं ।	बर्फ के पुतले मैं बनाऊँ उनको टोपी भी पहनाऊँ ।
गरमी	बसंत
मछली मैं बन जाऊँ पानी में मैं खूब नहाऊँ ।	रंगविरंगी पतंग उड़ाकर आसमान को छू जाऊँ ।
वर्षा	
कागज की एक नाव बनाऊँ झट से पानी में तेराऊँ ।	मौसम कितने प्यारे हैं । अहा ! कितने न्यारे हैं ।

These are just bare outlines giving suggestive ideas as to how one could kindle the curiosity of the gifted child and give him meaningful situations to learn from. It is not certainly an exhaustive list. How these can be adapted and used is left to the capable user.

[Mrs. Sundararajan is Director, Teachers Centre, Springdales Schools, New Delhi. The above article is part of a paper presented by her at a Workshop on Identification and Development of Talent in Preschool Children, organised in April 1985 by the National Institute of Public Cooperation and Child Development. It is reproduced here by the kind courtesy of NIPCID].

YOUR ATTENTION PLEASE

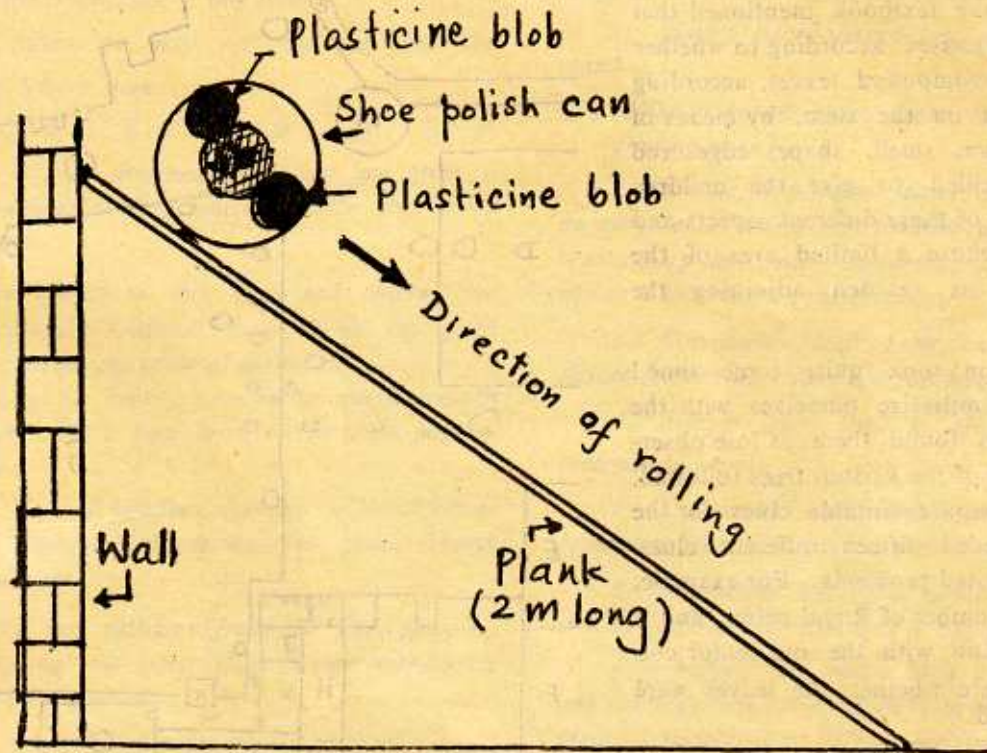
PATHWAYS is issued four times a year—in February, April, August and November. The annual subscription is Rs. 8/- only. Please send this in as a Money Order or Cheque (add outstation charges please) to the Educational Planning Group, 4, Raj Niwas Marg, Delhi-110054. This entitles you to all the four issues of that calendar year. Remember to include your complete and correct postal address, including the PIN Code. Back numbers can be obtained for Rs. 2.50 each (including postage).

A Science Project

Studying the Effect of Moment of Inertia on Rolling

by Lalit Kishore

Take an empty shoe polish can and put two blobs of plasticine in it symmetrically about its centre. Allow the can to roll down an inclined wooden plank about 2 metres long. Note the time taken by the can to reach the other end of the plank.



Activities :

1. Investigate how the time taken by the can to roll down the plank changes with the distance between the blobs of plasticine.
2. Investigate how the time taken by the can to roll down the plank changes with the size of the blobs of plasticine.

[Shri Lalit Kishore is Principal, Kendriya Vidyalaya, Tenga Valley, Arunachal Pradesh]



Answers to A Teachers' Puzzle

Across : 1. Pedagogue 4. Compete 9. Good 10. Response 14. Corporal 15. Communication 18. Skills 20. Punishment 21. Query 22. Evaluate 23. Psychomotor 24. Tests.

Down : 1. Piaget 2. Demonstrate 3. Games 5. Objective 6. Play 7. Examination 8. Concept 11. Intuitive 12. Quotient 13. Stimulus 14. Cognitive 16. Adolescent 17. Strategy 19. Grades.

A Study of the Trees in the School Garden

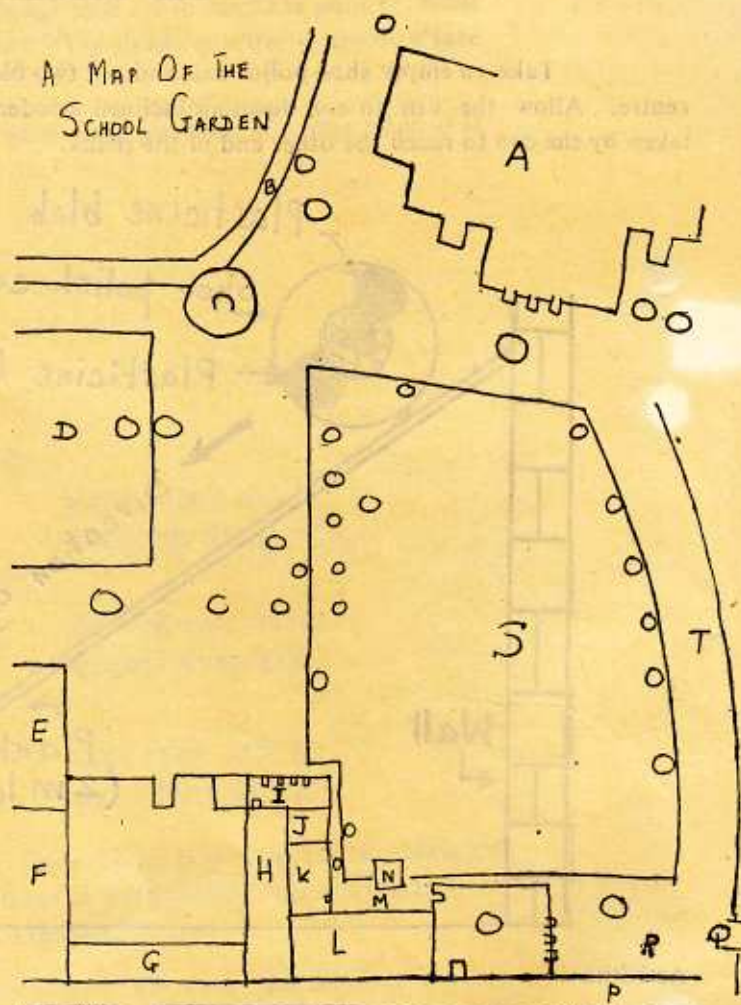
by Gayatri Moorthy

In the last issue of PATHWAYS, I had described how a Science Activity Centre has been set up at Sardar Patel Vidyalaya. Here I would like to share with readers, details of an interesting project that we tried out with class 6 last year. The students had just learnt about classification and the textbook mentioned that leaves could be categorised according to whether they were simple or compound leaves, according to their arrangement on the stem, by means of their colour, texture, smell, shape, edge and venation. We decided to give the children practical experience of these different aspects and for the exercise, chose a limited area of the school grounds—the garden adjoining the principal's office.

Our preparation took quite some time! We had first to familiarize ourselves with the large variety of trees found there. Close observation of the leaves of the various trees followed, so that we could prepare suitable clues for the children. We needed fifteen different clues. Some of them presented problems. For example, there were a large number of Royal palms and it needed a consultation with the our senior colleague to investigate whether the leaves were simple or compound.

Next we got down to drawing a map of the selected area. Letters represented different landmarks. Some of these were identified in the key, while students were asked to find out what the others were. The map was duplicated on a full-size sheet of paper so that each student could be given a copy, which was later to be pasted in their record books.

Another set of detailed instructions (reproduced later in this article) was cyclostyled. This was given out to students in the classroom, before they went out into the garden. Students worked in small groups of two or three and a deadline was set by which all the work was to be completed and handed in. They took about three weeks over the entire exercise, sometimes working during free periods and lunch breaks.



A Primary block B—Flower bed C—Sandpit E—Medical block G—Bank H—Corridor I—Home Science Laboratory J—classroom L—Office rooms M—path from office P—corridor S—lawn

To avoid damage to the trees, we decided that leaf rubbings (instruction 3) would be made during the practical class, so that each group could be provided with a limited number of leaves, crayons and paper. One enterprising student used the leaves to produce interesting patterns on a plain white handkerchief.

Here are the instructions given to the students :

INSTRUCTIONS

Read this sheet carefully before you start your work. You are given a map of the school on the side of the Principal's office. The different parts of the building and grounds are labelled with letters A to T. Some of them are named in the index. The circles on the map show the position of some of the trees found in this area.

1. Study the map and find out what the following letters show :

D ; F ; K ; N ; O ; Q ; R ; T,

2. On the attached sheet you are given a set of numbered clues which describe the leaves of the trees.

Take a walk in this area and observe the leaves carefully. Match them with the given clues. Find out the name of the trees.

Fill in the correct number on each circle in your map. Paste your map on the blank page of your file.

3. You will be given samples of the different leaves. Therefore, please do not pluck leaves from the trees.

Make leaf rubbings from the given samples, cut them out and paste them in your note-books. Number them correctly.

4. On the ruled page of your notebook :

- i. Name the different parts of your map (Instruction 1)
- ii. Make a table giving the number of the trees and their names.
- iii. Write a short description of any one tree in the garden. You may have to go out and look at it again, carefully. Observe and record some of these things :

its approximate height (compare with any object nearby), its position

its shape (tall, wide, spreading..)

its bark (colour, how it feels..)

its leaves—their colour, rough/smooth, hard/soft, smell, venation, edge, arrangement.

its flowers and fruit

any other special features you notice.

If you like, use your crayons to make a rough sketch of your tree.

Readers might be interested in some of the clues we made up. Here are some samples :

1. Simple sword-shaped leaf with reticulate venation.

(Hint : One of these trees has a creeper growing on it.)

2. Simple, very large leaves, feather-like in appearance. The leaf has parallel venation which breaks it up into many strap-shaped parts. This makes it look like a compound leaf.

3. Compound leaf. Long, narrow, sword-shaped leaflets with wavy margins hang downwards.

4. Simple leaf. Oval in shape, they are arranged in whorls.

5. Compound leaf. The vertical fan-like branchlets bear small greyish-green leaflets.

6. Compound leaf. The shiny leaflets are oval in shape and are arranged in opposite manner.

(The leaflets are rather high up on this tree and you may have some difficulty in observing them. Here is another hint : This tree bears purplish-black fruit you like to eat.)

We helped the children along by giving the names of some of the trees with the letters jumbled up :

MHISSA RRULBMYE TREEDVIELS
SHRUBETLTOT AJHUT KSAOH.

Some of you would have made these out as :

Shisham, Mulberry, Devil's Tree, Bottle-brush, Thuja and Ashok. Among the clues, you might have guessed that number 2 referred to the palms mentioned earlier. Number 3 refers to the Ashok, number 4 to the Devil's Tree, number 5 to Thuja and number 6 to a Jamun tree.

If there was more than one specimen of a particular tree we tried to help the children along with additional clues like the hint given in number 1. Some names had to be obtained by talking to other teachers or the school *mall*.

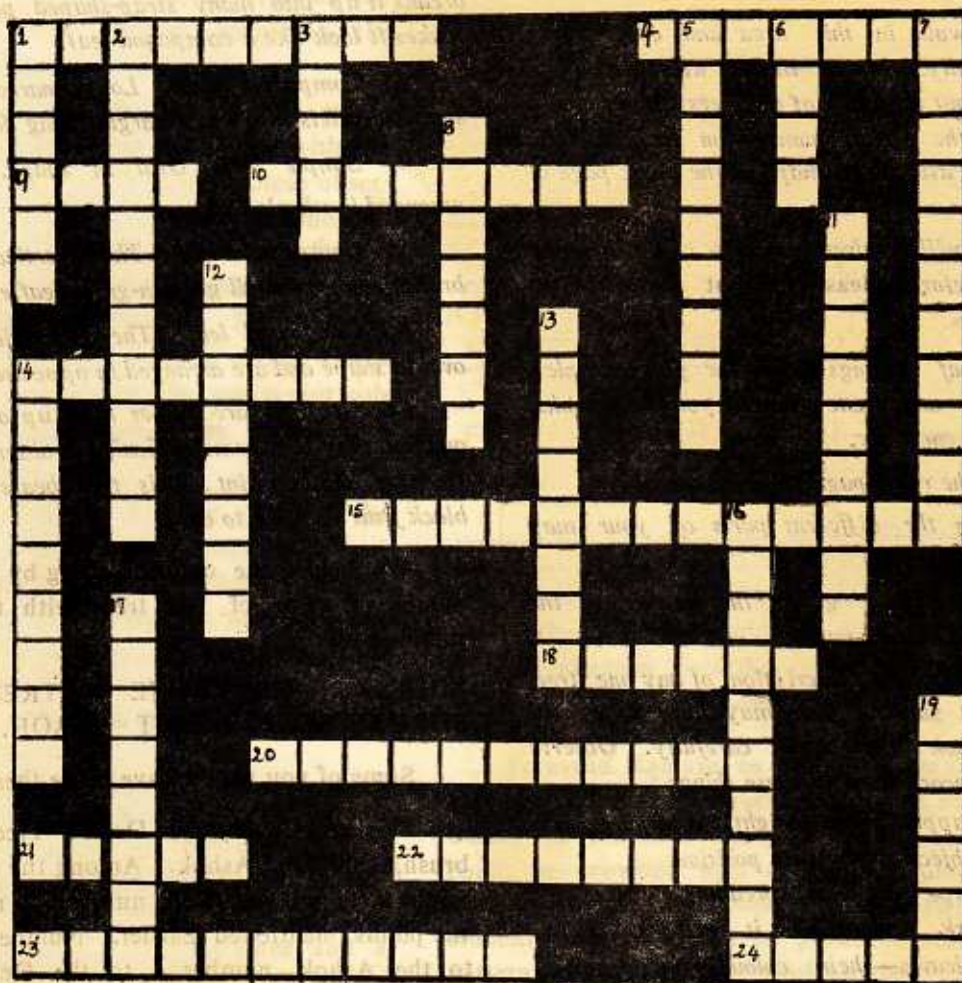
The map given to the children is reproduced here to give you an idea of how complex the task really became. We realised almost at once that our students lacked the skill of reading maps. Time had to be spent with each group

showing them how to orient the map correctly, so that they could proceed with numbering the trees. Thus, this skill became a valuable by-product of the exercise.

Finally, having given the students freedom to select their own tree for a detailed description (instruction 4. iii.), we found they took a great deal of trouble in observing and recording many small details—good training for our young scientists ! □

A TEACHERS' PUZZLE

How up-to-date are you on the technical vocabulary of an educator ? Here's a way to find out. Have lots of fun ! Clues are on the opposite page. Answers are on page 7.



CLUES

Across

1. A teacher
4. The teams
9. A remark which motivates every student.
10. In reply to a question.
14. Banned form of punishment.
15. Verbal and non-verbal interaction.
18. Abilities.
20. The result of misbehaviour.
21. Question.
22. Find out its worth.
23. Learning related to body-mind coordination.
24. They provide feedback on effectiveness of your work.

Down

1. Name of well-known psychologist who studied stages of development of child.
2. If the students cannot do it with their own hands, the science teacher must.....
3. They develop the body.
5. Your goal.
6. As necessary as work.
7. Year-end bogey.
8. Idea
11. Infants' learning.
12. The 'Q' of IQ
13. Evokes a response.
14. Learning related to knowledge.
16. A student passing through a difficult period of physical and emotional adjustment.
17. Teaching technique.
19. Found in report card.

Firsthand Experiences

Firsthand experiences are, in the last analysis, the basis of learning. A person's education rests, fundamentally, upon his direct contacts with the world about him, through seeing, hearing, feeling, smelling, tasting and other sensory channels.

Unfortunately, this truth seems all too often to be forgotten. So readily do we substitute books about things for the things themselves, films for field trips, telling for discovering, television for participation and memorizing for investigating.

Of course, vicarious experiences—those which one has indirectly, through the medium of others—are often highly worthwhile. In fact, at times they may be the only feasible means of developing concepts. Certainly there is no question of the value of books, pictures, recordings and other instructional aids. But they can never fully replace firsthand, direct experiences.

As an example, can reading about air pressure substitute for actually feeling it? Does watching spots of light in a planetarium truly take the place of seeing real stars move across the sky? Is listening to someone tell about the delay of echoes as effective as actually hearing and measuring this delay?

Can one really convey to a child, by words, the fragrance of mint, the flavour of wintergreen, or the sting of nettle? How adequate a concept of snow can a youngster have who has never seen snow, felt snow, eaten snow, or otherwise experienced snow?

The same point holds true for much of what is taught in school, be it about soil erosion, pond life, the seasons, water vapour, or the methods used by scientists. Firsthand experiences are needed to make such subjects more meaningful to pupils.

—From : Teaching Science with Every day Things, Schmidt and Rockcastle.

PLAYING WITH JUNK MATERIALS

by Meera Govil

What a load of rubbish ! Or is it ? In that bin full of household waste carted off by the *kabadiwala* could be something of great value to your child's play ?

What is junk ? It is material thrown away ; of no use to anyone. But looked at from another angle, it is a cheap, versatile and creative source of play.

Boxing Clever

Cornflake packets, egg boxes, tea packets and biscuit boxes give opportunities for play which have many advantages. They :

- * cost nothing
- * are easily replaced
- * are safe
- * can become anything from a model car to a dolly's bed
- * can be crushed, trodden on, torn up without anyone getting cross.

Sometimes we buy toys for our children which we later find they don't use. Maybe daddy buys a train set for his three year old son and hovers around anxiously, ready to pounce at the first clumsiness. Or a clockwork car is soon broken because all that can be done with it is to watch it and that soon gets boring for a two year old who wants to play actively with his toys. Sometimes the boxes the toys come in are enjoyed by a young child in play. He can put things into a box and tip them out again. At one and half years a child will play happily for a long time using clothes pegs or spoons to fill and empty his box. A four year old may put dolly to sleep in it, covering her over with a handscarf or a hanky, and if the box is big enough, he may put himself to sleep in it.

A large big-enough-to-get-into cardboard box can provide hours of play. Four year olds

will turn it into a den, a house, a ship, a car, may draw or paint on it, wear it and become a robot or climb on it. And when it's finished with they can use a lot of aggressive energy to break it into pieces ready for the dustbin.

Junk gives scope for the imagination. It gives a child freedom to play as he wants to without a grown-up telling him 'it's not meant for that'. He can find out the possibilities of building and construction as he sticks boxes together. And junk provides a lot of play value for very little expense.

What else ?

Junk isn't only boxes. Here is a list of other things you could collect in and around the house :

ice-cream tubs	bits of wool
string	old curtains
corks	washed eggshells
wood shavings	dead matches
buttons	milk-bottle tops
cardboard tubes	feathers
cotton reels	seedpods
magazines	leaves
cotton wool	cards
fir cones	

and paper of every kind : newspaper, tissue, glazed paper, cellophane, bags, brown paper, doilies, crepe paper, corrugated cardboard.

What a treasure-store to choose from to present to a three or four year old ! He can sort buttons by colour or size or number or just haphazardly, using foil dishes or eggboxes to separate them. He can run wood shavings through his fingers or curl one around them. He can crackle the egg shells. He can put milk bottle tops into an ice-cream tub and listen to the noise they make when he shakes it. He can stroke a feather against his face. Getting the

feel of all these things is useful and interesting to a child, as he explores size, weight, shape, colour and texture.

Dress-Up

An old curtain can set the imagination working. It can be :

- * an Arab dress
- * a pram cover
- * a bride's train
- * a table cloth
- * a Batman cloak
- * a ghost
- * a sari.

It's much more useful for dressing-up in than, say, a cowboy suit, which can only be a cowboy suit.

Stick-up

Glue will add further uses to your junk. Small amounts of 'school glue' (from a stationer) can be placed in an ice-cream tub with a glue brush or spatula, or a lolly stick. Your child will soon learn how to stick with glue, especially if he sees another child using it. Many of the

materials listed above will stick to sheets of paper, and he'll have a lovely, if sticky, time experimenting. Of course he'll make a mess, so you need to cover the table or floor and resign yourself to picking up the bits afterwards.

Freedom

The value of much of junk play lies in the freedom it gives the child to do as he wants. You may sometimes feel he's messing about to no clear purpose and that you could show him how to make a nice picture using eggshells and wood-shavings. In fact you may feel a sneaking desire to have a go yourself ! Why not do so ? But make sure you do your own thing, and leave him to do his. Don't show him how to ; let him find out for himself. Older children may ask for help, for example in sticking cardboard boxes together or fixing tin lids to make wheels. Give them that help but again don't be tempted to take over. There is a lot more value in their planning for themselves what to make. They will learn more easily and enjoy it much more.

THE LETTER 'A'

by Mrs. P. A. Beddoe

Vayu Sadan, Air Force Station, Agra

The sound of the vowel "a" which changes in various words of the English language leads to much confusion, particularly with those children for whom English is a "School language". Flash cards using a different colour for the letter "a", according to its sound, proved very helpful. However, it is important to wean children away from the colour association as soon as they are thoroughly familiar with the words. In our school we made the flash cards using black lettering against a white background for all the other letters in the words.

A red 'a' was used in words like

A blue 'a' was used in words like

A green 'a' was used for

An orange 'a' was used for

cat, mat, sat, pat, bat, fat, apple, ant.....

call, ball tall, all, fall, hall, wall, daughter

cart, heart, start, mart, part, dart, father, car, star.....

may, say, pay, ray, stay.....

The cardboard for the flash cards was obtained from the back of used letter pads. The reverse side of old calendars provided us with white paper. We used the glossy variety of paper and regretted it ! The coloured "a's" in the words can be cut out of glossy paper, glazed paper or can merely be crayoned in.

As the students progress these "a's" must be slowly replaced with a normal black "a" so that the children get used to the words as they will see them in their readers. □

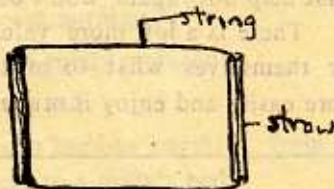
SOAP FILMS

—A Science Activity for Children of the Primary School

Materials Needed : Soap (detergent) and water solution, drinking straws, lightweight string shallow tray.

It is best to work out-of-doors. Alternatively cover work areas with newspaper which can later be thrown away.

- * Cut a drinking straw in half, and cut a piece of string about 6 times the length of one of the straw pieces. Thread the string through the straws and tie it to make a rectangular frame, as shown.



Hide the knotted part of the string inside one of the straws.

- * Holding the frame with the straws dip, it into soap solution in a tray and lift it out, keeping the straws close together.
- * Slowly pull the straws apart, so that you have a soap film "window". This may take some practice.
- * Hold the frame up high and pull it towards you. With practice, you should be able to

produce giant bubbles.

- * When you have succeeded in this, make a larger frame, using 2 straws. Now you will be able to make even larger bubbles. Have fun!

This is an example of an activity that can be used in a variety of ways :

For very young children, a demonstration of the technique is all that is needed.

For upper elementary children, questions might be posed. How would you describe the soap film? Can you poke your finger through the film without breaking it? Is the film transparent? Can you change the size of the window? Can you change the shape of the window? What shape is the bubble? Can you change the shape of the bubble?

For higher levels, more challenges could be added. Try to devise a method for measuring the strength of the soap film. Find out about liquid crystals.

Above all, allow individual ideas to be pursued. This should be an informal and open-ended activity, that need not be confined to soap films. Possible spin-off investigations might involve elasticity, tensile strength, refraction of light, properties of detergents ...

—Ilma Levine

HAVE YOU SEEN :

How to use the Blackboard in Teaching English ; David Horsburgh ; Orient Longman ; Rs. 6.00. This book has 60 plates, intended to help a teacher learn how to draw interesting pictures and liven up her lessons. Some drawings are difficult, but others are of simple, everyday things, easily drawn by most of us.

LANGUAGE TEACHING GAMES

We would like to share with readers some games which involve children in oral work, giving them practice in using given structures, as well as reinforcing some aspects of grammar. Some of them can be tried, in collaboration with your colleagues, when the children are outdoors. Some can be worked out within the classroom itself.

1. Who Am I ?

Every child has a name/occupation written on a piece of paper pinned to his/her back. They have to work in pairs, asking each other questions to find out what they are. The problem : Questions must be so framed that they may be answered only by a 'Yes', a 'No' or a 'Yes and no'. A demonstration would make this clear. Possible questions might include . Do I work outdoors ? Do I get up early in the morning ? Do I sell things ?

2. Lalajee's Horse

This game stretches the vocabulary and helps in identifying adjectives. Each child, in turn, has to supply an adjective in the sentence : Lalajee's horse is a....horse. The first child supplies an adjective starting with 'a', the next child uses the letter 'b' and so on through the alphabet.

You can change the structure of the sentence or try another sentence to work on adverbs.

3. Excuse me but that's nonsense

Try this game with the help of a prepared cassette. It makes the children listen carefully and tests comprehension. Sentences, singly or in a sequential order, are read out. Each one contains one error—usually a silly, inappropriate word. For example : The sun rose in the West The stars were twinkling in the morning sky.

The children have to spot these errors and suggest the correct words. The game can be played between teams as well.

4. Pronunciation Bingo

A variation of 'Housey' in which each child has a card bearing a number of words. The teacher has a complete list of these words but *does not call them out*. Instead he calls out words which rhyme with them. Thus 'head', 'had' and 'bit' may be called out to rhyme with 'bed', 'bad' and 'sit'. The students cross out the words which rhyme with those called out.

5. Treasure Hunt

Two or more trails can be laid out in advance, all leading to the same treasure. The teams may be given clues on paper of different colours so that they locate only their own clues. Children must be able to read and understand these clues which will generally include a number of prepositions :—above, below, in front of, behind etc.

OUR LATEST PUBLICATIONS

FOR YOUR SCHOOL

Nursery & K. G.

HINDI

1. Bhasha Akshar Bodh
2. Bhasha Shabd Bodh
3. Bhasha Swar Bodh
4. Varn Chitravali
5. Bhasha Shabd Chitravali
6. Bhasha Swar Chitravali
7. Nanhey Munney Geet
8. Raseele Geet
9. Akshar Geet
10. Navin Akshar Bharati

SOCIAL STUDIES & SCIENCE

1. General Science (Int.)
2. Samaj Darshan Chitravali
3. Vigyan Darshan-Chitravali

DRAWING

1. Kala Sarover Col. A & B

ENGLISH

1. Learning A B C
2. A B C Picture Book
3. Learning English 1st Step
4. Learning English 2nd Step
5. Learning English 3rd Step
6. ABC Colouring & Writing (Capital Letters)
abc Colouring & Writing (Small Letters)
8. Pintoo Tinkoo Rhymes

MATHEMATICS

1. Count & Write 1-20
2. New Plan Number Book 1 to 100
3. New Plan Arithmetic I
4. Prarambhik School Ganit I
5. Understanding Modern Maths I & II
(Hindi/English)
6. Composite Mathematics for Schools (Int.)

PRIMARY CLASSES

1. Composite Mathematics for Primary schools (Parts I to V)
2. General Science (Parts I to V)
3. Steps to Social Studies (Parts I to V)
4. Bhasha Bodh (Parts I to V) (Hindi Readers)
5. Gyan Sarover (Parts I to V) (Hindi Supplementary Readers)
6. Kala Sarover (I to V)

For detailed Catalogue please write to us :

ARYA BOOK DEPOT

Publishers of Authentic & Attractive Text Books

30, Nai Wala, Karol Bagh,
New Delhi-110005.

PHONES : 561221, 560363

Printed at : Adarsh Printers, Kotla Mubarakpur, New Delhi-110003.
for the Educational Planning Group, 4, Raj Niwas Marg, Delhi-110054

Phones : 692139, 624140